

Application No.: 09/662,392

REMARKS/ARGUMENTS

The Office Action mailed July 2, 2002 has been carefully reviewed. Reconsideration of this application, as amended and in view of the foregoing amendments and the following remarks, is respectfully requested.

35 U.S.C. 102 Rejection

In numbered paragraph 4 of the Office Action mailed July 2, 2002 claims 1, 7, 9-11 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Mascolo et al. (U.S. Pat. 5,078,046). The system of the Mascolo et al. reference is described as follows:

The present invention relates generally to air treatment apparatus, and more particularly, to a low cost apparatus for treatment of fluent air in household, commercial and automotive applications. By "treatment" is meant supplying deodorizing or air freshening chemicals, particular scents, and in some cases, chemicals for air cleaning such as fungicides, mildewicides or the like. Col. 1, lines 4-10.

In the automatic system 224, various inputs such as a smoke presence detector 234, an odor presence detector 236, and an auxiliary input 238 are shown. A smoke and odor detector may be of any kind, and are shown schematically as being operatively connected to the panel such that the detected condition will provide a signal calling for the air treatment system to be energized. Col. 6, lines 39-45.

None of the elements of applicant's amended claims are found in the system of the Mascolo et al. reference. For example the system of the Mascolo et al. reference does not show the following elements of amended claim 1: "a detection system for detecting said chemical weapons and/or biological pathogens agents within said air" or "a treatment

system for treating said chemical weapons and/or biological pathogens agents” or “a control, responsive to said detection system, for activating said treatment system in response to detection of said chemical weapons and/or biological pathogens agents within said air.”

35 U.S.C. 103 Rejections

In numbered paragraph 7 of the Office Action mailed July 2, 2002 claims 2, 3, 5, 6, 8, 12, 13, and 15 were rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Moscolo et al. in view of Groger et al. (U.S. Pat. 5,766,956).

In numbered paragraph 8 of the Office Action mailed July 2, 2002 claims 4 and 14 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Mascolo et al. as applied to claims 1 and 11 above and further in view of Anbar (U.S. Pat. 4,022,876).

In numbered paragraph 9 of the Office Action mailed July 2, 2002 claims 16-18 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Mascolo et al. as applied to claim 11 and further in view of Condit et al. (U.S. Pat. 5,938,823).

In numbered paragraph 10 of the Office Action mailed July 2, 2002 claims 2-5 and 12-15 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Moscolo et al. in view of the publication "Autonomous System for Pathogen Detection and Identification" to Belgrader et al.

Applicant submits that none of the elements of the amended claims are found in the system of the Mascolo et al. reference, see applicant's comments relating to the 35

U.S.C. 102 rejection above. None of the secondary references Groger et al., Anbar, Condit et al., or Belgrader et al. teach or suggest the combinations of the amended claims.

The Groger et al. system is described as “a compact, diode laser-based sensor having applications in the fields of chemical and biological analysis.” Col. 2, lines 39-41.

The Anbar system is described as “a method and means of making an immunological assay is provided whereby stable isotopes of certain elements, or long-lived radioisotopes of these elements are used to tag antigens or antibodies.” Abstract lines 1-4.

The Condit et al. system is described as “air cleansing apparatus includes an electrostatic precipitator in which the collector plates are made of, for instance, reticulated chemical vapor deposited silicon carbide, or reticulated silicon carbide ceramic coated with titanium nitride, zirconium diboride, or chemical vapor deposited silicon carbide.” Abstract lines 1-6.

The Belgrader et al. reference is a publication by the applicant in the present application with other authors. The Belgrader et al. reference states, “We are currently working to build such an autonomous system, which we call the ‘Bio-Sentry,’ using flow cytometry for surface-recognition assays, PCR for nucleic-acid-based assays, and sample collection/preparation instrumentation, along with commercial bio-aerosol collectors.”

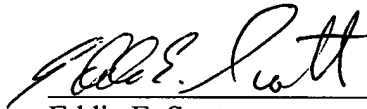
Under MPEP §2143.01, “[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” In *re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In *re Jones*, 958 F.2d 347, 21

USPQ2d 1941 (Fed. Cir. 1992). None of the references teach or suggest the combinations of the amended claims.

SUMMARY

The title, abstract, and the claims have been amended. The undersigned respectfully submits that with the amendments, and in view of the remarks, the rejections of the claims raised in the Office Action dated July 2, 2002 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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Application No.: 09/662,392

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

Please replace the title at page 1, lines 1 and 2 with the following new title:

DETECTION AND TREATMENT OF CHEMICAL WEAPONS AND/OR  
BIOLOGICAL PATHOGENS [AGENTS]

IN THE ABSTRACT:

Please replace the abstract at page 33, lines 1-5 with the following rewritten abstract:

ABSTRACT OF THE DISCLOSURE

A system for detection and treatment of chemical weapons and/or biological pathogens [agents] uses a detector system, an electrostatic precipitator or scrubber, a circulation system, and a control. The precipitator or scrubber is activated in response to a signal from the detector upon the detection of [unwanted agents] chemical weapons and/or biological pathogens.

IN THE CLAIMS

1. (Amended) A system for protecting an enclosure against chemical weapons and/or biological pathogens by the detection and treatment of [unwanted] chemical weapons and/or biological pathogens agents within air inside of an enclosed airspace that is a gathering area for people, comprising:

a detection system for detecting said [unwanted] chemical weapons and/ or biological pathogens agents within said air,

a treatment system for treating said chemical weapons and/ or biological pathogens agents, and

a control, responsive to said detection system, for activating said treatment system in response to detection of said [unwanted] chemical weapons and/or biological pathogens agents within said air.

2. (Twice Amended) The system [for the detection and treatment of unwanted agents] of claim 1 wherein said detection system utilizes immunoassays and said immunoassays include antibody based or synthetic-peptide based immunoassays.

3. (Twice Amended) The system [for the detection and treatment of unwanted agents] of claim 1 wherein said detection system utilizes nucleic-acid-based assays and said nucleic-acid-based assays include polymerase chain reaction immunoassays.

4. (Amended) The system [for the detection and treatment of unwanted agents] of claim 1 wherein said detection system utilizes mass-spectrometric-based assays.

5. (Twice Amended) The system [for the detection and treatment of unwanted agents] of claim 1 wherein said detection system utilizes a plurality of assays and said detection system utilizes a plurality of assays include antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays and said antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays include polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

6. (Twice Amended) The system [for the detection and treatment of unwanted agents] of claim 1 including a circulation system for circulating said air to said detection

system and said treatment system and a control connected to said treatment system and said circulation system for inactivating said circulation system if said treatment system shuts down prematurely.

7. (Amended) A method for protecting an enclosure against chemical weapons and/or biological pathogens by the detection and treatment of [unwanted] chemical weapons and/or biological pathogens agents within the air inside of an enclosed airspace that is a gathering area for people, the air circulated in an air stream, comprising:

circulating said air within said air stream,

detecting said [unwanted] chemical weapons and/or biological pathogens agents,

generating a signal upon detection of said [unwanted] chemical weapons and/or biological pathogens agents, and

using [the] said signal to activate a treatment system connected to said air stream for treating said chemical weapons and/ or biological pathogens agents.

8. (Amended) The method [for the detection and treatment of chemical and biological agents] of claim 7, including the step of stopping said circulation system if said treatment system shuts down.

9. (Amended) An apparatus that detects the presence of airborne [chemical and/or biological] chemical weapons and/or biological pathogens threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system and treats said chemical weapons and/or biological pathogens threats, comprising:

an autonomous chemical and pathogen detector within the said forced-air circulation system that detects the presence of airborne chemical weapons and/or biological pathogens threats,

a treatment system for treating said chemical weapons and/ or biological pathogens threats, and

a control, responsive to said autonomous chemical and pathogen detector, for activating said treatment system in response to detection of said chemical weapons and/or biological pathogens agents.

10. (Amended) An apparatus that detects and identifies the presence of airborne chemical and/or biological threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system comprising:

an autonomous chemical and pathogen detector means within the said forced-air circulation system for detecting, identifying, and quantifying the presence of airborne chemical weapons and/or biological pathogens threats,

treatment means for treating said chemical weapons and/ or biological pathogens threats, and

control means, responsive to said autonomous chemical and pathogen detector means, for activating said treatment means in response to detection of said chemical weapons and/or biological pathogens agents.

11. (Amended) An apparatus that detects, identifies, and quantifies the presence of airborne chemical weapons and/or biological pathogens threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system and treats said airborne chemical weapons and/or biological pathogens threats, comprising:

an autonomous chemical and/or pathogen detector within the said forced-air circulation system that detects, identifies, and quantifies the presence of airborne chemical weapons and/or biological pathogens threats,



a treatment system for treating said chemical weapons and/or biological pathogens threats, and  
a control, responsive to said autonomous chemical and/or pathogen detector, for activating said treatment system in response to detection of said chemical weapons and/or biological pathogens agents.

12. (Amended) The apparatus of claim 11 wherein said autonomous chemical and/or pathogen detector utilizes immunoassays and said immunoassays include antibody based or synthetic-peptide based immunoassays.

13. (Amended) The apparatus of claim 11 wherein said autonomous chemical and/or pathogen detector utilizes nucleic-acid-based assays and said nucleic-acid-based assays include the polymerase chain reaction.

14. (Amended) The apparatus of claim 11 wherein said autonomous chemical and/or pathogen detector utilizes mass-spectrometric-based assays.

15. (Amended) The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes a plurality of assays and said plurality of assays include antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays and said antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays include the polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

16. (Amended) The apparatus of claim 11 [including a system that treats the airborne threat using] wherein said treatment system utilizes an electrostatic precipitation.

17. (Amended) The apparatus of claim 11 [including a system that treats the airborne threat using] wherein said treatment system utilizes an aqueous-based spray/aerosol scrubbing system.

18. (Amended) The apparatus of claim 11 [including a system that treats the airborne threat using] wherein said treatment system utilizes both electrostatic precipitation and an aqueous-based spray/aerosol scrubbing system.